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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,287	07/18/2002	Konstantinos Samaras	Samaras 7-5-7	1491

7590 08/25/2005  
Lucent Technologies Inc  
600 Mountain Avenue  
PO Box 636  
Murray Hill, NJ 07974-0636

EXAMINER

DUONG, FRANK

ART UNIT	PAPER NUMBER
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2666

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/980,287

Applicant(s)

SAMARAS ET AL.

Examiner

Frank Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This Office Action is a response to communications dated 02/09/05. Claims 1-14 are pending in the application.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klein in view of Dupont (USP 5,974,106) (hereinafter "Dupont").

Regarding **claim 1**, in accordance with Klein reference entirety, Klein discloses a method of transmitting in time slots in TDMA frames user data in burst (*see page 3, Figure 3; spread speech/data burst 1 or 2*) of GSM format, each burst (*spread*

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*speech/data burst 1 or 2) comprising data portions (page 3, Figure 3; Data symbols) separated by a training sequence (Training sequence), the method comprising transmitting data of a first user in a first data portion (Data symbols before Training sequence depicted in Figure 1) of a burst before the training sequence and data of a second user in a second data portion (Data symbols after Training sequence depicted in Figure 1) of the burst after the training sequence (page 2, last paragraph, Klein discloses within one time slot of length 577  $\mu$ s, more than one burst of corresponding length can be transmitted. Theses bursts within the same time slot can be allocated to different users. Moreover, page 4, Klein further discloses spread burst 1 or two, for uplink, up to 8 different users per time slot). Klein fails to explicitly disclose the first data portion of the burst is of a first user and the second data portion of the burst is of a second user. However, such limitation lacks thereof from Klein reference is well known and taught by Dupont.*

In accordance with Dupont reference entirety, Dupont teaches a multirate communications method allows for different data rates for each data unit on a channel, including both data units from different mobile units and from the same mobile unit (see '106, abstract), comprising, among other things, the limitation of first data portion of a burst belongs to a first sender (col. 3, lines 17-18) and second data portion of a burst belongs to a second sender (col. 3, lines 18-18) to provide multirate data communications in wireless system that remedy most of the known problems ('106, col. 1, lines 56-58).

It would have been obvious to those skilled in the art, having Klein and Dupont references readily available at the time of the invention was made, to incorporate Dupont's teaching into Klein's or to modify Klein's method with Dupont's to arrive the claimed invention with a motivation to provide multirate data communications in wireless system that remedy most of the known problems ('106, col. 1, lines 56-58).

Regarding **claim 2**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses transmitting each data portion in a sub time-slot allocated to a different user (page 2, last paragraph, Klein discloses within one time slot of length 577  $\mu$ s, more than one burst of corresponding length can be transmitted. These bursts within the same time slot can be allocated to different users).

Regarding **claim 3**, in addition to features recited in base claim 2 (see rationales discussed above), Klein in view of Dupont further discloses transmitting user data in each time slot in a burst structure, user data being transmitted in each sub time slot in a corresponding burst structure (page 2, last paragraph, Klein discloses within one time slot of length 577  $\mu$ s, more than one burst of corresponding length can be transmitted. These bursts within the same time slot can be allocated to different users and page 3, Figure 3, spread burst 1 or 2).

Regarding **claim 4**, in addition to features recited in base claim 3 (see rationales discussed above), Klein in view of Dupont further discloses in which a burst structure has n bits, the method including partitioning each time slot into m sub time slots (spread bursts), and transmitting user data in each sub time slot (spread burst) in a

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corresponding burst structure n/m bits (*page 2, last paragraph, Klein discloses within one time slot of length 577  $\mu$ s, more than one burst of corresponding length can be transmitted. Theses bursts within the same time slot can be allocated to different users and page 3, Figure 3, spread burst 1 or 2*).

Regarding **claim 5**, in addition to features recited in base claim 3 (see rationales discussed above), Klein in view of Dupont further discloses in which the user data comprises speech (*see page 3, Figure 1, spread speech/data burst 1 or 2*).

Regarding **claim 6**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses in which the TDMA system is an EDGE packet switched network (*page 5, Fig. 4, Klein UMTS, which EDGE system is evolved from*).

Regarding **claim 7**, in addition to features recited in base claim 6 (see rationales discussed above), Klein in view of Dupont further discloses in which the TDMA system is a wireless system (*page 1, UMTS*), the method including encoding (Fig. 4; Channel coding) in up-link data from p users such that each forms 1/p of an RLC/MAC block, wherein the data from each user is encoded into a respective one of p sub-time-slots (*page 5, Fig. 4, Klein discloses the mapping of layer 2 PDUs on layer 1 physical channels. The recitation thereat inherent teaches the claimed limitation in a manner set forth*).

Regarding **claim 8**, in addition to features recited in base claim 7 (see rationales discussed above), Klein in view of Dupont further discloses transmitting the RLC/MAC

block over four TDMA frames (page 5, Fig. 4, Klein shows layer 2 PDUs mapped into four TDMA frames).

Regarding **claim 9**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses including encoding the user data into an RLC/MAC block for transmission, and transmitting the RLC/MAC block in a sub-time-slot over a plurality of frames (page 5, Fig. 4, Klein shows layer 2 PDUs mapped into four TDMA frames).

Regarding **claim 10**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses including encoding (Fig. 4; Channel coding) user data associated with at least two users is encoded into a single RLC/MAC block, and transmitting the portions of the RLC/MAC block associated with respective users in respective sub-time-slots (page 5, Fig. 4, Klein shows layer 2 PDUs mapped into four TDMA frames).

Regarding **claim 11**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses including transmitting the user data in each time slot in a burst structure having  $n$  bits, portioning each time slot into  $m$  sub time slots, and transmitting user data in each sub time slot in a corresponding burst structure  $n/m$  bits (see *link adaptation disclosed on page 4 and slot structure depicted in Figure 3*).

Regarding **claim 12**, in addition to features recited in base claim 11 (see rationales discussed above), Klein in view of Dupont further discloses in which the user data comprises speech (*page 3, Figure 3, spread speech/data burst 1 or 2*).

Regarding **claim 13**, in addition to features recited in base claim 12 (see rationales discussed above), Klein in view of Dupont further discloses in which the TDMA system is a wireless system (*page 1 and thereafter; UMTS*), the method including encoding, in up-link data, from  $p$  users is encoded such that each forms  $1/p$  of an RLC/MAC block, wherein the data from each user is encoded into a respective one of  $p$  sub-time-slots (page 4, Klein discloses link adaptation and parameters and page 5, Fig. 4, Klein shows layer 2 PDUs mapped into four TDMA frames. *Thus, the recitation thereat inherent teaches the claimed limitation in a manner set forth*).

Regarding **claim 14**, in addition to features recited in base claim 1 (see rationales discussed above), Klein in view of Dupont further discloses including transmitting the RLC/MAC block is transmitted over four TDMA frames (page 5, Fig. 4, Klein shows layer 2 PDUs mapped into four TDMA frames).

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Frodigh et al (USP 5,909,469).

Bohnke et al (USP 6,567,374).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Duong whose telephone number is 571-272-3164. The examiner can normally be reached on 7:00AM-3:30PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Frank Duong', is positioned above the printed name.

Frank Duong  
Primary Examiner  
Art Unit 2666

March 30, 2005